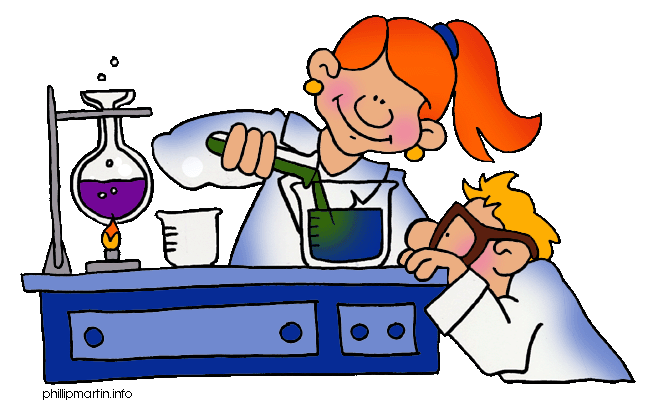
The Great Balloon Race

Your job in this task is to write a complete lab report following the handout provided to you or the lab report in Appendix 3 on page 189 of the science text. This lab report will address the lab called “The great balloon race” on page 89 of your science text. You will be given 3 bath bombs to use for this lab in order to find the best combination of conditions that will make the balloon blow up the fastest. After this lab is complete we will use one more bath bomb per group to perform the great balloon race.

1. Brainstorm some ways that you might be able to speed up the rate of reaction.
2. Write a lab report about this investigation
   1. *Title*
   2. *Research question*
   3. *Fair Testing*
   4. *Hypothesis*
   5. *Plan including materials and method*
   6. *Results including table and graph*
   7. *Conclusion and explanation*
   8. *Evaluation*
3. For your **conclusion and explanation** please address the following points
   1. Discuss what your results show you about your original research question. Discuss this carefully, thoughtfully, imaginatively and in depth.
   2. Was your hypothesis correct? If so, what knowledge enabled you to make this prediction. If not, why was your prediction wrong.
4. For your **evaluation** please answer the following questions.
   1. How well do you think your investigation went? Did you have any problems you dealt with while carrying out the experiment?
   2. What errors where there in your lab. Was it truly a fair test?
   3. How could you improve your experiment next time?



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| **Criterion D – Scientific Inquiry** | | |
| **Achievement Level** | Descriptor | Task-Specific Descriptor |
| **0** | The student does not reach a standard described by any of the descriptors below. | You do not reach a standard described by any of the descriptors below. |
| **1-2** | Consistent with the complexity of the work covered and with guidance - The student attempts to articulate a problem or research question. The method suggested is incomplete. The student attempts to make comments on the method. | You attempt to articulate a research question for your investigation. You are able to make an attempt with writing a plan for your investigation. You attempt to make comments on how well your investigation worked. |
| **3-4** | Consistent with the complexity of the work covered and with guidance - The student articulates a problem or research question. The student identifies some appropriate materials and equipment and writes a simple method, attempting to identify some of the variables and controls involved and how to control and manipulate them. The student makes comments on the method. The student attempts to suggest improvements to the method. | You are able to articulate a reasonable research question for your investigation. You are able to identify some appropriate materials and equipment and write a simple method, showing some understanding of fair testing. You are able to comment in your evaluation about how well your investigation worked and attempt to suggest improvements to the method |
| **5-6** | Consistent with the complexity of the work covered and with guidance - The student articulates a problem or research question. The student identifies appropriate materials and equipment and writes a simple method, identifying the variables and controls involved and how to control and manipulate them. The student makes comments on the method and the quality of the data collected. The student makes comments on how the outcome of the investigation helps to answer the research question. The student can suggest improvements to the method. | You are able to suggest a suitable research question for your investigation and make a prediction for what results you might obtain. You are able to write a workable plan for this investigation, showing good understanding of fair testing. You are able to make relevant comments in your evaluation about how well your investigation worked and how you could improve your investigation. |

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| **Criterion E – Processing Data** | | |
| **Achievement Level** | Descriptor | Task-Specific Descriptor |
| **0** | The student does not reach a standard described by any of the descriptors below. | You do not reach a standard described by and of the descriptors below. |
| **1-2** | With guidance - The student collects some data and attempts to record it in a suitable format. The student organizes transforms and presents data in simple numerical or visual forms, with some errors or omissions. The student attempts to draw a conclusion but this is not consistent with the interpretation of the data. | You are able to collect some data about how different conditions affect the reaction between a bath bomb and an acid. You are able to present this data in a simple results table, and make some attempt to draw a simple type of graph. You attempt to comment on the relationships in the data but in a very limited way. You attempt to draw a conclusion about which conditions made the reaction between the acid and the bath bomb go the fastest but your conclusion likely does not show a proper interpretation of the data. |
| **3-4** | With guidance - The student collects sufficient relevant data and records it in a suitable format. The student organizes, transforms and presents data in simple numerical and/or visual forms, with a few errors or omissions. The student states a trend, pattern or relationship shown in the data. The student draws a conclusion consistent with the interpretation of the data. | You are able to collect a considerable amount of data about how different conditions affect the reaction between a bath bomb and an acid. You are able to make a reasonable effort to present this data in a suitable results table, and draw a suitable graph. You are able to describe almost correctly the relationships in the data. You are able to draw a conclusion about which conditions made the reaction between the acid and the bath bomb go the fastest and this conclusion is generally consistent with the data. |
| **5-6** | With guidance - The student collects sufficient relevant data and records it in a suitable format. The student organizes, transforms and presents data in simple numerical and/or visual forms logically and correctly. The student states a trend, pattern or relationship in the data and uses the data to convey understanding/interpretation. The student draws a conclusion based on the interpretation of the data. | You are able to collect a considerable amount of data about how different conditions affect the reaction between a bath bomb and an acid. You are able to present this data in a suitable results table, and draw a suitable graph. You are able to describe correctly the relationships in the data. You are able to draw a conclusion about which conditions made the reaction between the acid and the bath bomb go the fastest and this is consistent with the interpretation of the data. |

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| **Criterion F – Attitudes in Science** | | |
| **Achievement Level** | Descriptor | Task-Specific Descriptor |
| **0** | The student does not reach a standard described by any of the descriptors below. | You do not reach a standard described by and of the descriptors below. |
| **1-2** | The student still requires some guidance to work safely and some assistance when using material and equipment. The student still requires some guidance to work responsibly in regard to the environment. The student is able to mostly work as part of a group, but sometimes they need reminders or advice on how to cooperate with others. | You still require some guidance to work safely and some assistance when using the material and equipment. You still require some guidance to work responsibly in regard to the classroom environment. You are able to mostly work as part of a group, but sometimes you need reminders or advice about how to cooperate with others. |
| **3-4** | The student is able to work safely with little guidance and with little assistance when using material and equipment. The student is able to work responsibly in regard to the environment. The student is generally able to work in a cooperative way when working as part of a group. | You are able to work safely with little guidance and with little assistance when using materials and equipment. You are able to work responsible with regard to the classroom environment. You are generally able to work in a cooperative way when working as part of a group. |
| **5-6** | The student is able to work safely and use material and equipment competently, without guidance. The student is able to work responsible in regard to the environment. The student is able to cooperate with others when working as part of a group. | You are able to work safely and use material and equipment competently without guidance. You are able to work responsibly with regard to the classroom environment. You are able to cooperate with others when working as part of a group. |